USSR   UDC 621.383.52

KOSOGOV, O.V., MARAMZINA, M.A.

"Calculation Of Collection Factor Of Indium Antimonide Photodiodes With A Nonsymmetric p-n Junction"

Translation: The paper considers the effect of recombination constants on the spectral distribution of the collection factor with various depths of occurrence of an indium antimonide p-n junction. An analysis is made for parameters existing in the case of alloyed and epitaxial p-n junctions of $n^+ p$ type on a base of p-InSb. Summary.

1/1

Refractory Materials

USSR   UDC 666.764:621.928.37

MARANTS, A. G., GUTMAN, V. I., All-Union Institute of Refractories; FRANTOVA, E. S., ZEGER, I. Ye., VASILIVITSKIY, A. V., KREYDLIN, P. N., All-Union Scientific Research, Planning, and Design Institute of Metallurgical Machinery; ROMANOVSKIY, L. B., KOREN, L. N., and KOSTYRYA, Yu. F., Dnepropetrovsk Metallurgical Institute

"Prospects of the Application of the Melting Cyclone for the Production of Melted Refractories"

Moscow, Ogneupory, No 5, 1973, pp 50-54

Abstract: The process of cyclone melting was investigated with a view to produce melted refractories of the magnesium-spinel and brazilite-corundum types. Experiments were carried out at the Institute of the Problems of Material Science of the Academy of Sciences UkrSSR. The experiments indicated the possibility of applying melting cyclones with the use of a blast enriched with oxygen for the production of cast fused refractories with a 1800-1900°C fusion temperature in which the melt aggregates in the warming forehearth for aftercasting into molds. The dust removal in cyclone melting does not exceed 5%, thus ensuring the production of a melt which is close to the initial charge in chemical composition. The optimum content of oxygen in the blast at an approximate natural gas consumption of 1.5 nm^3/kg charge was determined.

1/2

USSR

MARANTS, A. G., et al., Ogneupory, No 5, 1973, pp 50-54

The properties of the produced materials are analyzed. Four figures, three tables, three bibliographic references.

2/2

Parasitology

MARAPULETS, L. A., and CHERCHENKO, I. I., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus, Stavropol

"The Feeding Activity on Man of Fleas From the Common Vole of the Transcaucasian Upland"

Abstract: Thousands of specimens of six species of fleas which are common parasites on voles in the Transcaucasian upland plague focus, were tested for their feeding habits on man. Most of the fleas, among them many young hungry ones, were reluctant to feed on man, when placed on a human body for 10 minutes to 24 hours. Out of hundreds of fleas, one might have fed on man. However, three species of fleas: Ceratophyllus caspius, Ceratophyllus consimilis, and Frontopsylla elata caucasica, did feed on man in a 10 minute exposure in 1.4, 7.5 and 4.0% of cases respectively. Frontopsylla elata, however, harbors plague bacteria for only a limited time. The Ceratophyllus species can be expected in the transmission of plague from rodents to man, since they, feed readily on the vole, and are considered of epidemiological importance.

1/1

USSR

MARARU, A.

UDC 624.07:534.1

"Nonlinear Vibrations of the Armature of an Electromagnetic Motor"

VI Mezhdunar. konf. po nelineynym kolebaniyam. Poznan', 1972 (Sixth International Conference on Nonlinear Oscillations. Poznan', 1972), Varshava, 1972, pp 91-92 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V285)

Translation: Nonlinear oscillations of the armature of an electric motor that arise upon impacts on the rigid arresting device for fluctuation amplitude are investigated. Cases are considered when the impact is ideally elastic and when there occurs a partially plastic impact with a given restoration coefficient. In steady-state processes without considering friction, the armature is represented in the form of a system with one degree of freedom excited by a harmonic perturbing force and periodic impacts of the same period, but with a phase shift, thus modeling the effect of contact with the amplitude arresting device. Analytical expressions are given describing the linear and nonlinear fluctuations in the case of elastic and partially plastic impact, their areas of existence are determined, and conditions for the rise of oscillations with impact and their maintenance are established when the perturbing force becomes less than a magnitude at which nonlinear phenomena arise. V.S. Gontkevich.
1/1

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USSR

MARASANOV, V. V., MARASANOV, T. F., MYAGKAYA, V. N.

"Mathematical Models for Differential Diagnosis of Diseases"

Matematicheskiye Modely Differentsial'noy Diagnostiki Zabolevaniy [English Version Above], Kishilev, Shtiintsa Press, 1973, 62 pages (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V733K).

Translation: Problems of algorithmization of the process of medical diagnosis are studied on the example of early differential diagnosis of influenza and the group of influenza-like accompanying diseases, as well as a model of symptomatic and syndrome diagnosis and a model considering the interrelationship of systems of regulation in the orginism. The mathematical models suggested for diagnosis are tested using a digital computer on a large group of patients. Algorithms and results of their testing are presented.

1/1

USSR

MARASANOV, V. V., MARASANOV, T. F., MYAGKAYA, V. N.

"Mathematical Models for Differential Diagnosis of Diseases"

Matematicheskiye Modely Differentsial'noy Diagnostiki Zabolevaniy [English Version Above], Kishilev, Shtiintsa Press, 1973, 62 pages (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V733K).

Translation: Problems of algorithmization of the process of medical diagnosis are studied on the example of early differential diagnosis of influenza and the group of influenza-like accompanying diseases, as well as a model of symptomatic and syndrome diagnosis and a model considering the interrelationship of systems of regulation in the organism. The mathematical models suggested for diagnosis are tested using a digital computer on a large group of patients. Algorithms and results of their testing are presented.

1/1

USSR   UDC 577.4

MARASANOV, V. V., MARASANOVA, T. F., and MYAGKAYA, V. N.

"Mathematical Models of the Differential Diagnosis of Diseases"

Matematicheskiye modeli differentsial'noy diagnostiki zabolevaniy (cf. Eng-
lish above), Kishinev, "Shtiintsa," 1973, 62 pp, ill., 35 k. (from RZh-
Matematika, No 6, Jun 73, Abstract No 6V733)

Translation: The book considers questions of algorithmizing the process of
making a medical diagnosis, using the example of the early differential diag-
nosis of influenza and a group of influenza-like diseases, as well as models
of symptom and syndrome diagnosis and models which take into consideration
the interrelationship between control systems in the organism. The proposed
mathematical diagnosis-making models were checked with the use of a digital
computer on a large group of patients. The algorithms and the results of the
check are given.

1/1

MARASANOV, V. V.

Medicine

Lieutenant-Colonel of the Medical Service V. V. Marasanov. On the long-term results of the treatment of a cranio-cerebral trauma.

In order to study the effect of the treatment of cranial-cerebral trauma during their acute stage, an analysis has been carried out of the long-range results of the treatment of 21 patients at a garrison hospital during the period of from 1944 through 1956. In 51 of these patients, a slight brain concussion was originally diagnosed, in 13 cases the concussion was more severe, and in 7 cases there was a contusion.

After treatment, all patients were discharged in a satisfactory condition, and only in a very small number of them were there any residual manifestations of cerebral pathology (headaches, insomnia, fatigue, epileptiform vegetative changes). After discharge from the hospital, the men were left under active observation of their unit doctors as well as of their garrison neuropathologists and civilian specialists.

This study of long-range results showed that the officers who had suffered contusions, had to be discharged from the army because of the traumatic brain disease which they developed. Five children too, with pronounced manifestations of asthenia, were treated in subsequent clinics and were able to complete their term of service, and four others, after such clinical treatment, were listed as conditionally fit for limited service. The remaining 60 persons found no need to report for further medical attention.

1/3   050   UNCLASSIFIED   PROCESSING DATE--23OCT70
TITLE--POST IRRADIATION CHANGES IN THE ELECTRICAL CONDUCTIVITY OF HEXOGEN
-U-
AUTHOR-(02)-SHECHKOV, G.T., MARASANOVA, G.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 465-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ELECTRIC CONDUCTIVITY, HEXOGEN, PROTON, RADIATION EFFECT, X
RAY, THERMOGRAVIMETRIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1392   STEP NO--UR/0080/70/043/002/0465/0467

CIRC ACCESSION NO--AP0116841
                            UNCLASSIFIED

CIRC ACCESSION NO--AP0116841
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEXOGEN (C SUB3 H SUB6 N SUB6 O
   SUB6) WAS PRESSED INTO TABLETS AT 10 TONS-CM PRIME2 AND 80DEGREES.   THE
   SAMPLES WERE SUBJECTED TO PROTON IRRADN. IN A 4.7-MEV CYCLOTRON OR
   EXPOSED TO X RAYS FROM A SOURCE AT E EQUALS 200 KV AND I EQUALS 20 MA.
   DOSES WERE SMALLER THAN OR EQUAL TO 9.8 TIMES 10 PRIME20 EV-G.   THE
   ELEC. COND. OF HEXOGEN SAMPLES SUBJECTED TO PROTON IRRADN. WITHIN A DOSE
   OF (3.52-7.04) TIMES 10 PRIME18 EV-G INCREASED BY A FACTOR OF 25.
   FURTHER EXPOSURE TO PROTONS CAUSED A MONOTONIC INCREASE UP TO A DOSE OF
   9.8 TIMES 10 PRIME20 EV-G.   X RAY IRRADN., REGARDLESS OF DOSE, DID NOT
   ALTER THE ELEC. COND. OF HEXOGEN.   THE ACTIVATION ENERGY OF ELEC. COND.
   INCREASED AFTER X RAY IRRADN., REGARDLESS OF DOSE, DID NOT ALTER THE
   ELEC. COND. OF HEXOGEN.   THE ACTIVATION ENERGY OF ELEC. COND. INCREASED
   AFTER X RAY IRRADN., WHILE A REVERSE RELATION WAS OBSD. AFTER PROTON
   BOMBARDMENT.   X RAY IRRADN. WITHIN THE INVESTIGATED DOSE DID NOT ALTER
   THE CHEM. COMPN. OF HEXOGEN, AND NO STRUCTURAL DEFECTS ARE INITIATED, AS
   PROVED BY DTA AND THERMOGRAVIMETRIC DATA.   PROTONS CAUSED BOTH CHEM.
   DECOMPN. AND INITIATION OF STRUCTURAL DEFECTS.   THE NEGLIGIBLE SP. ELEC.
   COND. OF HEXOGEN AT ROOM TEMP. (10 PRIME16-OHM CM), THE HIGH ACTIVATION
   ENERGY (1.85 EV), THE ABSENCE OF PHOTOCURRENTS BOTH PRIOR TO AND AFTER
   IRRADN., AND THE FACT THAT HEXOGEN CRYSTALS ARE MOL. LEAD TO THE
   CONCLUSION THAT CURRENT CARRIERS IN HEXOGEN ARE EITHER EXTRINSIC IONS OR
   CRYSTAL LATTICE DEFECTS.   ELEC. COND. MEASUREMENTS ARE RECOMMENDED AS A
   SENSITIVE METHOD FOR THE DETN. OF PHYS. CHEM. CHANGES IN PROTON
   IRRADIATED HEXOGEN.

UNCLASSIFIED

3/3   050   UNCLASSIFIED   PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0116841
ABSTRACT/EXTRACT--THE NATURE OF CURRENT CARRIERS CAN BE DETD. AFTER
  SIMULTANEOUS RADIATION YIELD AND ELEC. COND. MEASUREMENTS AT DIFFERENT
  DOSES.   FACILITY: TOMSK, POLITEKH. INST. IM. KIROVA. TOMSK,
  USSR.

UNCLASSIFIED

USSR   UDC 616.981.555-085.733-039.71

MARASANOVA, L. P., Irkutsk Institute of Epidemiology and Microbiology

"Passive Prophylaxis of Experimental Gas Gangrene Caused by Cl. Perfringens Types A, B, C, D, E, and F"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, pp 101-105

Abstract: Guinea pigs were infected with one of six types of Clostridium perfringens and, one hour later, given one of four types of antitoxic sera. The results revealed poor cross effectiveness. In all cases, homologous antisera were 100% effective in preventing the development of gas gangrene. However, antiserum A protected only 80% of the animals infected with strain C, 60% of those infected with strain B, 50% of those infected with strain F, 30% of those infected with strain D, and 10% of those infected with strain E. Antisera B, D, and E were even less effective in preventing gas gangrene and death caused by heterologous toxins. It is concluded that the conventional administration of just the A type antitoxic serum to human patients is an inadequate prophylactic measure.

1/1

Microbiology

MARASANOVA, L. P., Irkutsk Institute of Epidemiology and Microbiology

"The Role of Cl perfringens Types A, B. C, D. E, and F in the Etiology of Gas Gangrene"

Abstract: Study of cultures of strains of Cl. perfringens types A, B, C, D, E, and F, isolated from different sources and obtained from a number of collections, showed that all were capable of producing lethal toxins in guinea pigs. But some of the strains (B 200, C AMO, D 91) after long storage ceased to synthesize lecithinase on nutrient media and did not cause gas gangrene in animals. Although they died with symptoms of poisoning, they did not exhibit the local tissue changes characteristic of the disease. The inability of these strains to cause the disease indicates that the clinical picture and pathological changes typical of experimental gas gangrene are closely related to the production of lecithinase. The activity of the toxins in an exudate from diseased tissues was two to four times greater than in artificial culture media. Thus, even weakly toxin-forming Cl perfringens strains in soil may cause gas gangrene when they enter an open wound.
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USSR   UDC 577.4

MARASANOV, V. V., MARASANOVA, T. F., and MYAGKAYA, V. N.

"Mathematical Models of the Differential Diagnosis of Diseases"

Matematicheskiye modeli differentsial'noy diagnostiki zabolevaniy (cf. English above), Kishinev, "Shtiintsa," 1973, 62 pp, ill., 35 k. (from RZh-Matematika, No 6, Jun 73, Abstract No 6V733)

Translation: The book considers questions of algorithmizing the process of making a medical diagnosis, using the example of the early differential diagnosis of influenza and a group of influenza-like diseases, as well as models of symptom and syndrome diagnosis and models which take into consideration the interrelationship between control systems in the organism. The proposed mathematical diagnosis-making models were checked with the use of a digital computer on a large group of patients. The algorithms and the results of the check are given.

1/1

USSR   UDC 541.69+547.754

MARKARYAN, E. A., SOLOMINA, L. P., and MARASHYAN, E. S., Institute of Fine
Organic Chemistry Imeni A. L. Mndzhoyan, Acad. Sc. Armenian SSR (Yerevan)

"Synthesis and Investigation of Pharmaceutical Properties of 1-Diphenylalkyl
Substituted 1,2,3,4-Tetrahydro-β-carbolines and Their Derivatives"

Abstract: Tryptamines condensed with diphenylacetic acid and diphenylpro-
pionic acid chlorides yield amides which can be converted to corresponding
secondary amines by lithium aluminum hydride reduction. Bischler-Napieralski
cyclization of these amines with phosphorus oxychloride yields 1-acylalkyl sub-
stituted tetrahydro-β-carbolines which when condensed with formaline yield
benz(g)indolo(2,3-a)-7-R-14-phenyl-5,7,8,13,13b,14-hexahydroquinolizines and
5H-benz(5,6)azepino(1,2-a)-7-R-15-phenyl-7,8,13,13b,14,15-hexahydro-β-carbol-
ines. Most of these compounds exhibited short-lasting hypotensive activity.

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USSR   UDC 547.94+547.834.2

MNATSAKANYAN, V. A., ARUTYUNIAN, L. S., ALEKSANYAN, R. A., and MARASHYAN, E. S.,
Institute of Fine Organic Chemistry imeni A. L. Mndzhoyana, Academy of Sciences
SSR (Yerevan)

"Modification of Alkaloid Structures. V. Some Alcohols of the Lupinine and
Epilupinine Series"

Abstract: A series of eight amino alcohols, homologs derived from the
(-) lupinine (structure I, R = CH_2OH) and its diastereomer (+) epilupinine
(structure II, R_1 = CH_2OH) were synthesized from (-) lupinine.

The influence of their methiodides on the ring circulation was studied. Both
forms were obtained for R = R_1 = $CH_2CH_2CH_2OH$, CH_2O-$(CH_2)_3CH$; only I was obtained
for R = $CH_2CH(CH_2OH)_2$; and only II was obtained for R_1 = CH_2CH_2OH. A number of

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USSR

physical constants, such as n_D^{18}, $[\alpha]_D^{17}$, R_f for thin-layer chromatography, IR spectral data and others, are given for the compounds and their methiodides.

2/2

USSR

UDC 547.835:542.953

MNDZHOYAN, AL. (DECEASED), MARKARYAN, E. A., MARTIROSYAN, T. N., SOLOMINA, L. P., and KARASHYAN, E. S., Institute of Fine Organic Chemistry, Academy of Sciences ArmSSR, Yerevan

"Isoquinoline Derivatives. VI. Synthesis and Pharmacological Properties of 4,6,7-Substituted 1(2)-Arylalkyl-1,2,3,4-tetrahydroisoquinolines and Their Analogues"

Abstract: Condensation of 6,7-dimethoxy-1,2,3,4-tetrahydroisoquinoline with diphenylacetic- and diphenylpropionic acyl chlorides gave respective amides — N-(2-diphenylacetamido)- and N-(2-diphenylpropionylamido)-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinoline, m.p. 133-134° and 145-146° respectively. These products were reduced with LiAlH4 to tertiary amines and converted to hydrochlorides: N-(β-diphenylethyl)- and N-(δ-diphenylpropyl)-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinoline, melting at 173-174° and 179-180° respectively. When 1-phenyl- or 1-p-methoxyphenylaminomethylcyclohexane was used in above condensation, the products were 1-(acetamidomethyl)-1-phenylcyclohexane and 3,4-dimethyloxyphenylethylamide of diphenylpropionic acid. Cyclization of these amides followed by LiAlH4 reduction yields respective tetrahydroisoquinolines. 1/2

USSR

MNDZHOYAN, A. L., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 12, Dec 71, pp 1683-1687

Condensation of 1-deiphenylethyl-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinoline with formalin gave 2,3-dimethoxy-13-phenyl-5,6,8,13,14,14a-hexahydroisoquino-lino-[2,1,-b] [2] benzazepine.

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USSR

UDC 528.517:621.373.9

DERYAGIN, V. N., MARASIN, L. YE., POPOV, YU. V., Candidate of Sciences

"Small GDFI-3 Pulse-Phase Laser Range Finder with Digital Output"

Leningrad, Optiko-mekhanicheskaya promyshlennost', No 7, 1972, pp 23-27

Abstract: The GDFI-3 pulse-phase laser range finder is described. It is a further development of a previously described device [V. N. Deryagin, et al., Optiko-mekhanicheskaya promyshlennost', No 6, 27, 1970; No 12, 27, 1970]. The circuitry has been simplified appreciably, and provision has been made for high speed and data output on a digital display. The mathematical description of the method on which the range finder is based, a block diagram of the device and a description of an experimental model are given. Instead of the usually measured interval $\Delta t = 2D/c$, the interval τ_T obtained as a result of linear transformation is measured [$\tau_T = \Delta\varphi T_{intermediate}/2\pi$ where $\Delta\varphi$ is the phase shift between the signal and reference voltages, and $T_{intermediate} = 1/F_{intermediate}$]. The test results show that the range to a corner reflector about 100 cm^2 in area is no less than 12 km and to diffusely reflecting objects, ~250 meters. The measurement accuracy is ± 5 cm.

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USSR

VORONIN, Yu. A., MARASULOV, A. F., TITOV, A. A., SHEVCHENKO, N. G.

"Computer Programs for Determination of Optimal Subspaces in Order to Solve Recognition Problems"

Primeneniye mat. Metodov i EVM pri Poiske Polezn. Iskopaemykh [Use of Mathematical Methods and Computers in the Search for Useful Minerals -- Collection of Works], Novosibirsk, 1972, pp 150-179 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V858 by E. Vagner).

Translation: The problem of finding information sets of properties is most frequently solved as follows. First some method of evaluating the information content of individual properties is indicated, then considerations are stated allowing approximate determination of the information sets of properties as sets of independent quantities and informative properties individually. In most methods of determination of information content, the information content of a set of properties can be no less than the information content of any subset and is expressed, as a rule, by a single number. The search for the optimal set of properties is performed by random choice. It is clear that a method suitable for all cases which can avoid running through a long list cannot

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VORONIN, Yu. A., MARASULOV, A. F., et. al., Primeneniye mat. Metodov i EVM pri Poiske Polezn. Iskopaemykh, Novosibirsk, 1972, pp 150-179.

be developed.

It is suggested that a set of properties be sought, the information content of which is no less than the information content of a certain fixed set of properties. Asymmetrical and symmetrical coupling factors between properties are sought, and a suggested algorithm for running through the information subspaces is described, based on determination of the close components of connection of properties. A generalized block diagram of the algorithm is presented. 37 Biblio. Refs.

2/2

USSR

VORONIN, Yu. A., MARASULOV, A. F., TITOV, A. A., SHEVCHENKO, N. G.

"Computer Software for Finding Optimum Subspaces to Solve Recognition Problems"

Translation: The problem of finding informative aggregates of properties is usually solved in the following way: First, some method is assigned for evaluating the informability of individual properties; then considerations are pointed out which enable approximate determination of informative aggregates of properties as aggregates of independent and individually informative properties. In most methods of determining informability the informability of the aggregate of properties cannot be less than the informability of any component subaggregate and, as a rule, is expressed by a single number. The trial and error method is used in searching for the optimum aggregate of properties. Clearly there can be no procedure which avoids a very "extensive" sorting process which is suitable for all cases.

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USSR

VORONIN, Yu. A., et al., Primeneniye mat. metodov i EVM pri poiske polezn. iskopayemykh--sbornik, 1972, pp 150-179

It is proposed that an aggregate of properties be sought whose informability is not less than that of some fixed aggregate of properties. Asymmetric and symmetric coefficients of coupling between properties are introduced, and the proposed algorithm for finding informative subspaces is described. This algorithm is based on determining closely related components of connectedness of properties. An over-all flow chart of the algorithm is presented. Bibliography of 37 titles.

2/2

USSR

UDC: 51:155.CO1.57:681.3.06

VORONIN, Yu. A., MARASULOV, A. F., UMAROV, R. D., KHALIKOV, A. K.

"Introducing Measures of Similarity and Relation for Solving Geological and Geophysical Problems"

V sb. Mat. probl. geofiz. (Mathematical Problems of Geophysics--collection of works), vyp. 2, Novosibirsk, 1971, pp 305-310 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V1029)

Translation: The paper presents an axiomatic approach to introducing measures of similarity on a set of objects, and measures of relation on a set of properties, and also measures of similarity between sets of objects for solving geological and geophysical problems. V. Mikheyev.

1/1

1/2   021   UNCLASSIFIED   PROCESSING DATE---27NOV70
TITLE--METHOD OF GRAVITY DETERMINATION IN MOTION -U-

AUTHOR-(05)-LISITSIN, YU.N., LOZINSKAYA, A.M., MARAYEV, L.S., NENTSOV,
   L.D., PEYSIKOV, YU.V.
COUNTRY OF INFO--USSR

SOURCE--GEOFIZICHESKAYA APPARATURA, 1969, NR 39, P 161; AUTHOR CERTIFICATE
   NR 204618
DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GRAVIMETER, GRAVITY, TOWED BODY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1779   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0137019
                         UNCLASSIFIED

THE VERTICAL ACCELERATIONS OF THE FOUNDATION ARE DETERMINED FROM DEPTH
MEASUREMENTS AND THE OBTAINED VALUES COMPUTED FROM THE GRAVIMETER
READINGS.

UNCLASSIFIED

2/2   021
CIRC ACCESSION NO--AA0137019   UNCLASSIFIED   PROCESSING DATE--27NOV70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. A METHOD OF GRAVITY DETERMINATION
IN MOTION, BASED ON TOWING THE GRAVIMETER

USSR

UDC 669.716:621.746.55.047:621.771.23

BORISOV, V. G., MARAYEV, S. Ye., and ZYUZ'KO, I. I.

"Some Problems of the Theory and Practice of Ingot-Free Rolling of Aluminum Bands"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 165-171, resume

Translation: Thermophysical constants of the melt and the solidified metal in the range of the crystallization temperature are investigated as constants not depending on temperature. The production process of the band by the method of ingot-free rolling is analyzed. As a result of processing data of all ingot-free rolling parameters, the liquid metal temperature dependence of the process rate was established. Two figures, four bibliographic references.

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Inorganic Compounds

SHURYGIN, P. M., MARBAKH, A. L., DENISOV, V. M., IVANOV, V. V., Krasnoyarsk Institute of Nonferrous Metals imeni M. I. Kalinin

"Kinetics of Thermal Dissociation of GaP and GaAs Under a Layer of Flux"

Abstract: The authors investigated the kinetics of thermal dissociation of gallium phosphide and gallium arsenide under a layer of B_2O_3 doped with Na_2O, SiO_2 and GeO_2 at various pressures of argon. The process of vaporization of the volatile component of the compound -- formation and growth of the gas bubble, its detachment from the molten semiconductor and rise in the flux -- was observed visually and photographically. The rate of dissociation was determined from the number and sizes of bubbles escaping from the interface between phases or from the change in weight of the specimens. The results show that the vaporization of arsenic and phosphorus in the process of dissociation of gallium arsenide and gallium phosphide under molten flux is limited by the processes for formation and growth of bubbles. These processes depend on the external pressure of the inert gas and may be controlled by changing the composition of the flux. The pressure which prevents or

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USSR

SHURYGIN, P. M., et al., Doklady Akademii Nauk SSSR, Vol 204, No 6, 21 Jun 72, pp 1419-1421

strongly suppresses gas release can be lowered considerably by appropriate selection of a flux with high surface tension.

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USSR

UDC 613.646

SHLEYFMAN, F. M., ZHIRNOVA, G. Ye., ZELENTSOVA, S. P., MARCHENKO, TASHKER, I. D. and MOKROTOVAROVA, G. N., Kiev Institute of Industrial Hygiene and Occupational Diseases

"Hygienic Assessment of the Effects of Exposure to Heat"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 3, 1973, pp 12-15

Abstract: Rabbits and rats exposed to infrared radiation at the rate of kcal/m^2 /hour for varying lengths of time exhibited changes in body weight, behavior, immunological reactivity (decrease in antibody titers and phagocytic activity of leukocytes), hormonal activity, tissue respiration in the liver and skeletal muscles, oxidative phosphorylation, etc. The magnitude of the changes varied with the duration and nature of the exposure (continuous or intermittent), intensity of radiation, relationship between time of irradiation and rest periods, etc. Infrared radiation also brought about changes in humans. The heart rate, blood pressure, body temperature, etc. were affected, the degree varying mainly with the intensity and duration of exposure, and the length of the interval between exposures.

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USSR   UDC 532.517.4

MARCHENKO, A. G.

"Experimental Study of the Structure of Turbulent Boundary Layers in an Incompressible Fluid with a Longitudinal Pressure Gradient"

Moscow, Gidromekhanika, No 17, 1971, p 44-50.

Abstract: Results are presented from an experimental study of the structure of turbulent boundary layers developed in the initial sectors of confusors and diffusors with smooth and rough walls. Data are presented on the distribution of averaged and pulsation flow velocities and Reynolds transverse shear stresses in the cross sections of boundary layers with positive and negative pressure gradients. The specifics of the kinematic structure of these flows are studied.

1/1

USSR

UDC: 532.542

MARCHENKO, A. G.

"Structure of Fluid Flow Under Conditions of Transition from Laminar to Well-Developed Turbulent Flow"

Gidravlika i gidrotekhn. Resp. mezhved. nauch.-tekhn. sb. (Hydraulics and Hydraulic Engineering. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 11, pp 34-43 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7B569)

Translation: The paper presents the results of experimental studies of kinematic and dynamic characteristics of a two-dimensional flow of incompressible fluid in a smooth rectangular tube in the region of transition from laminar to well-developed flow conditions. Data are obtained which characterize the nucleation and development of turbulent pulsations in the flow, the nature of the distribution of these pulsations is shown, and quantitative evaluations are given. It is shown that determining the magnitude of tangential stresses on the wall from the data of structural measurements is good practice and agrees with the results of direct measurements. Bibliography of eleven titles. Author's abstract.

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MARCHENKO, A. I.

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DEPARTMENT OF THE ARMY
U.S. ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER
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In Reply Refer to:
FSTC-HT-23-1113-72
DIA Task No. T70-23-01

Date: 7 Sep 72

TRANSLATION

ENGLISH TITLE: HETEROGENEOUS SOLAR CONVERTERS BASED ON POLYCRYSTALLINE CADMIUM SULFIDE AND CADMIUM SELENIDE

FOREIGN TITLE: Geterogennye Solnechnye Preobrazovateli Na Osnove Polikristallicheskogo Sul'fida i Selenida Kadmiya

AUTHOR: V.N. Komashchenko, A.I. Marchenko, G.A. Fedorus

SOURCE: Poluprovodnikovaya Tekhnika i Mikroelektronika, No. 4, pp 112-121.

LANGUAGE: Russian

TRANSLATOR: A. Peabody, Leo Kanner Associates

REQUESTOR: Mr. Turner

CIRC FD71/000243/C08

USSR   UDC 536.421.5+539.231

MARCHENKO, A. I., FEDORUS, G. A.

"Obtaining and Studying Some Electrophysical Properties of Baked Tablets of Cadmium Sulfide and Selenide"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No 6, 1971, pp 55-58

Abstract: A simple process for obtaining low-resistance (ρ = 0.5-20 ohms-cm) baked tablets of cadmium sulfide and selenide has been developed suitable for manufacturing photoelements of the heterogeneous type. Some of the properties of these elements are investigated. The resistance of the tablets decreases with an increase in the roasting temperature, and the density of the tablets also increases. The specimens obtained were always n-type; the current carrier concentration varied from 10^{15}-10^{18} cm^{-3}, the mobility was within the limits of 1-50 cm^2/volt-sec for cadmium sulfide, for cadmium selenide the mobility was about 100 cm^2/volt-sec, and the concentration was 10^{16}-10^{18} cm^3 at room temperature.

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USSR

MARCHENKO, A. I., FEDORUS, G. A., ZHUKOVA, V. N.

"Some Properties of Photoconverters Based on Pressed Caked CdS Tablets"

Abstract: The results of studying a number of photoelectric and electrical properties of photoconverters based on pressed caked CdS tables are described. The possibility of obtaining effective photoconverters on the basis of such tablets was demonstrated previously [St. Kynev, et al., Acta Phys., Pol., No 25, 313, 1964; A. I. Marchenko, UFZh, No 12, 1392, 1967]. A procedure for manufacturing the tablets is also described. The photoconverters have high sensitivity in the entire visible range of the spectrum. The efficiency of converting the energy of solar radiation to electric energy is 3.5 percent. The sensitivity of the photoconverters in the long wave range of the spectrum is basically determined by the extrinsic absorption of light in CdS. The volt-ampere and volt-capacitive characteristics of the $p\text{-}Cu_{2-x}S\text{-}n\text{-}CdS$ heterojunction were investigated in a broad temperature range. The return branches of the volt-ampere characteristics do not reveal the current saturation section. The volt-ampere curves are characterized by "soft" breakdown usually observed in heterojunctions and the presence of excess currents appreciably exceeding the calculated values with respect to magnitude for materials with a CdS width of 1/2

USSR

MARCHENKO, A. I., et al., Poluprovodnikovaya tekhnika i mikroelektronika, No 6, 1971, pp 101-107

the forbidden zone. The magnitude of the critical voltage corresponding to the direct current increases with a drop in temperature. The negative temperature coefficient of the critical voltages is characteristic of Zener tunneling. Thus, the tunnel mechanism of passage of the current through the junction is indicated.

2/2

USSR

UDC   621.383.44

MARCHENKO, A. I., FEDORUS, G. A., and ZHUKOVA, V. N.

"Some Characteristics of Photoconverters Using Pressed Sintered Tablets of CdS"

Abstract: This article is the latest of a series of four dealing with photoconverters and published by the same authors. The first three demonstrated the possibility of fabricating photoelectric converters from sintered tablets of cadmium sulphide and selenide; the present article gives the results of investigations of the photoelectric and electrical characteristics of the CdS converters. The method for preparing the converters, from the initial material of the ETO 021009 TU brand to the final product, is described. The spectral characteristics of the converters are discussed, and a curve of the spectral short-circuit current distribution for two types of converter is plotted; the volt-ampere and volt-capacitance static characteristics of the heterojunction $p\text{-}Cu_{2-x}S\text{-}\text{-}n\text{-}CdS$ are investigated in a broad range of temperatures.

1/1

USSR   UDC 621.383.567

KOMASHCHENKO, V.N., MARCHENKO, A.I., FEDORUS, G.A.

"Heterogeneous Solar Transducers Based On Polycrystalline Cadmium Sulfide And Cadmium Selenide"

Translation: This paper gives the results of development of polycrystalline photo-transducers based on cadmium sulfide and cadmium selenide. The method of preparation and the photoelectric and electrical properties of the devices are described. The phototransducers possess high photosensitivity in all the visual region of the spectrum. The efficiency of conversion of the energy of solar radiation into electricity is ∿ 3 percent. The photocells are characterized by a high stability of their parameters in time. Using as an example studies of the electrical (voltampere and volt-capacitance) characteristics of heterogeneous $n(Cu_{2-x}Se)-n(CdSe)$, conclusions are drawn concerning the prevalence of the tunnel--recombination process in the mechanism for passage of the current through the heterogeneous system developed. 8 ill. 1 tab. 11 ref.

1/1

UDC: 621.791.763.029

USSR

ORLOV, B. D., MARCHENKO, A. L., ISAKOV, A. F., BILEV, K. K., IL'IN, B. V.

"A Liner for Spot and Roller Welding"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 5, 1970, p 74, patent No 261602, filed 6 Nov 68

Abstract: This Author's Certificate introduces a liner for spot and roller welding of aluminum-magnesium alloys. This liner, in the form of a strip, is introduced into the zone of the welded seam mainly for checking penetration. As a distinguishing feature of the patent, inspection quality is improved and the corrosion strength of the welded joint is increased by making the strip from an alloy of aluminum and manganese taken in the following percent ratio: manganese -- 5-6%, and the remainder aluminum. The thickness of the strip is 7-8% of the thickness of one of the plates being welded.

1/1

UDC 669.71.018.9.4

USSR

TSABROV, N. D., VINOKUROV, N. D., MARCHENKO, A. M., PECHENEV, V. S., KOPYTOV, G. A., VOL'KHIN, G. D., BERNSHTEYN, G. G.

"Experiment in Operating a Vacuum Mixer"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul VILSa (Light Alloy Technology. Scientific and Technical Bulletin of the VILS), 1970, No 5, pp 26-31 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G206)

Translation: The application of a vacuum mixer for evacuating liquid alloys based on aluminum is expedient and has a number of advantages over the methods used earlier: the gas saturation of the metal is reduced appreciably; the technological plasticity of the ingots is increased; an increase in the casting rate by 10-15% is possible; and the number of defects during ultrasonic control of the products is reduced sharply. The schematic of the mixer and its operation are described. There are 4 illustrations and 1 table.

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USSR

UDC 669.71.042.6

MIKHAYLOV, K. N., GAVRILOV, S. S., VASILEVSKIY, A. M., MARCHENKO, A. M., FOL'KHIN, G. D., and PEGHENEV, V. S.

"Casting of Ingots of Aluminum Alloys in Multiple-Crystallizer Systems"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa [Technology of Light Alloys. Scientific and Technical Collection of All-Union Institute of Light Alloys], No. 4, 1970, pp. 30-34, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. I Gl13 by G.Svedtseva).

Translation: A 24-crystallizer system for casting of aluminum alloy ingots 112, 145,and 165 mm in diameter on a single casting machine from a single tap hole has been developed and tested in order to increase the productivity of labor and casting equipment. A diagram and drawing of the installation are presented. 3 illustrations.

1/1

USSR

ZAYTSEV, Yu. V., MARCHENKO, A. N., and SUROGIN, L. I.

"Fixed Semiconductor Resistors"

Abstract: This brief communication reports a solution to the vexing problem of manufacturing precision, low-ohm resistors designed to operate in a wide temperature range. The material used is monocrystalline silicon with a high concentration of impurities. A cutaway view of the new resistor shows it to have the same shape and structural design as standard types. The process of its manufacture is given in some detail. A curve showing the tolerated electrical load as a function of the temperature is flat from 0 to 150° C, but drops off sharply and linearly to zero tolerated load at 275°C. A second curve of the temperature coefficient of resistance as a function of the silicon resistivity shows a rise in the temperature coefficient from 7 to 11%/degree over a resistivity range of 0.01 to 0.1 ohms cm. These resistors are designed for circuits requiring low temperature factors and high resistor accuracy. They have the added advantages of low noise level and the ability to sustain short-term overloading.

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USSR   UDC 547.26'11

MARCHENKO, A. P., PINCHUK, A. M., and FESHCHENKO, N. G., Institute of Organic
Chemistry, Academy of Sciences Ukrainian SSR

"Tris(N-alkyl-N-phenyl)amides of Phosphoric Acid"

Abstract: Tris(N-methyl-N-phenyl)- and tris(N-ethyl-N-phenyl)amides of
phosphoric acid (I) and (II) were synthesized by reacting a mixture of 50 ml
ether, 0.105 g-mole of phosphorus trichloride and 0.4 g-mole of triethylamine
at 0° stirred in a stream of argon with a solution of 0.35 g-mole of methyl-
aniline in 150 ml ether. The mixture is refluxed for 3-4 hrs, cooled to 10°,
the precipitate is separated, mixed with 300 ml chloroform, cooled to 10° and
the product is crystallized from chloroform. It was shown that the (I) and
(II) described in previous literature are actually N,N'-dimethyl-N,N',N"-
triphenyltriamide of phosphoric acid, its N,N'-diethyl homologue and N-ethyl-
N,N',N"-triphenyltriamide of phosphoric acid.

1/1

USSR

ZHURAVLEVA, L. P., SULEYMANOVA, M. G., MARCHENKO, A. P., Z'OLA, M. I.,
KOVALYUKH, N. N., and KIRSANOV, A. V., Institute of Organic Chemistry,
Academy of Sciences Ukrainian SSR

UDC 547.241

"Hydrogenation of Organophosphorus Compounds. Part V"

Abstract: This paper is one of a series of investigations on the hydro-
genation of organophosphorus compounds containing aromatic radicals. It is
shown that mixed oxides of tertiary phosphines, phosphinic and phosphonic
acids as well as phosphoric acid amides with phenyl and benzyl radicals will
be hydrogenated in the presence of a platinum catalyst to form corresponding
compounds with cyclohexyl and cyclohexylmethyl radicals; the phosphoric acid
amides will be hydrogenated at a higher rate (at room temperature) than
oxides and acids. Unlike the initial compounds, all hydrogenated products
featured lower melting points and higher solubilities in ordinary organic
solvents. When treated with phosphorus pentachloride, bis(cyclohexylmethyl)
phosphinic acids form their acid chlorides -- readily mobile liquids,
distillable under vacuum. When treated with propylmagnesium iodide,
bis(cyclohexylmethyl)phosphinic acids form an oxide of propylbis(cyclo-
hexylmethyl)phosphine which is identical to the hydrogenation product of

1/2

USSR

ZHURAVLEVA, L. P., et al., Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9,
pp 1944-1950

propyldibenzylphosphine oxide. The experimental section of this paper is
presented in great detail and includes tables citing yields, melting points,
solvents for crystallization, formulas, solubilities and other indicators
for phosphoric acid trialylamides $(RNH)_3PO$, phosphoric acid tris(cyclo-
hexyl)amides $(RNH)_3PO^a$ and other related compounds.

MARCHENKO, A. S.

PROBLEM OF LINEAR STATISTICAL FORECASTING WITH UNCORRELATED PREDICTORS

It is demonstrated that when using the set regression equations in the case where the real covariances between the predictors are zero, neglecting the sampled mutual covariances, however small, lowers the quality of the forecast compiled on the basis of data independent of the archive sample.

From the predictors $\eta, \eta_1, \ldots, \eta_n$ let us form the vector $\vec{\zeta} = (\zeta_0, \zeta_1, \ldots, \zeta_n)$ (there and hereafter the vector with the stroke is interpreted as the row vector). Let the predicted variable (the predictant) be ζ_0 and the true mean value and covariance matrix of the vector components, the predictant $+$ the predictor $\vec{\zeta}' = (\zeta_0, \zeta_1')$ equal

$$\mu = M\vec{\zeta} = \begin{pmatrix} \mu_0 \\ \mu_1 \end{pmatrix}, \quad \Sigma = \mathrm{cov}(\vec{\zeta}, \vec{\zeta}) = \begin{pmatrix} \sigma_{00} & \sigma_{01} \\ \sigma_{10} & \sigma_{11} \end{pmatrix} \quad (1)$$

respectively, where M and cov are the operators of mathematical expectation and covariance. It is known that in the class of linear forecasts, the forecast of the type

$$\hat\zeta_{0/1} = \mu_0 + \sigma_{01}'\sigma_{11}^{-1}(\zeta_1 - \mu_1), \quad \hat\zeta_{0/1} = \mu_1^{-1}\sigma_{11} \quad (2)$$
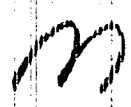
has a minimum mean square error equal to

$$\sigma_{0/1}^2 = M(\zeta_0 - \hat\zeta_{0/1})^2 = \sigma_{00}(1 - \rho^2), \quad \rho^2 = \frac{1}{\sigma_{00}}\sigma_{01}'\sigma_{11}^{-1}\sigma_{10} \quad (3)$$

In these formulas $\hat\sigma_{0/1}$ is the true vector of regression of ζ_0 by ζ_1, and $0 - \sqrt{\rho^2}$ is the true set correlation coefficient between ζ_0 and ζ_1.

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TITLE--EXPEDIENCY AND ACCURACY OF REDUCING SHORT TIME SERIES BY MEANS OF
    DIFFERENCES METHOD -U-
AUTHOR-(02)-MARCHENKO, A.S., TRIFONOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA I GIDROLOGIYA, 1970, NR 6, PP 56-61

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DIFFERENCE METHOD, TIME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2194   STEP NO--UR/0050/70/000/006/0056/0061

CIRC ACCESSION NO--AP0125774
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0125774
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ARTICLE THE DIFFERENCES
  METHOD FOR REDUCING THE MEAN VALUES OF SHORT TIME SERIES IS INVESTIGATED
  FROM THE SAME POINT OF VIEW AS REGRESSION METHOD IN THE STUDY (3).
  CRITERIA ARE SUGGESTED FOR TAKING DECISION ON EXPEDIENCY AND ACCURACY OF
  REDUCTION WITH ACCOUNTING OF LIMITED SELECTIONS USED FOR TAKING A
  DECISION.   FACILITY: VYCHISLITEL'NYY TSENTR SIBIRSKOGO
  OTDELENIYA AN SSSR, TOMSKIY.   FACILITY: GOSUDARSTVENNYY
  UNIVERSITET.

UNCLASSIFIED

USSR

VISHIK, M. I., and MARCHENKO, A. V. (Moscow)

"Boundary Value Problems for Second-Order Elliptic and Parabolic Operators on Infinite-Dimensional Manifolds With Boundaries"

Abstract: The article studies second-order elliptic and parabolic operators on a special class of infinite-dimensional manifolds (so-called CL-manifolds). In studying the Dirichlet problem for elliptic and parabolic differential operators given on CL-manifolds with boundaries, the main thing, just as in the finite-dimensional case, is to study the corresponding boundary value problem in the half-space $H^+ = \{x \in H_1 : x_1 \geqslant 0\}$. In case of constant coefficients, an infinite-dimensional analog of Poisson's formula is found to solve the Dirichlet problem in the half-space. It is proved that the corresponding Poisson kernel is a measure in H_1^+ (generally speaking, complex-valued). In the case of variable coefficients, the Poisson kernel obtained by freezing the initial operator makes it possible to construct its regularizer.

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USSR

An operator of the form $\hat{L}(x,\xi) + \zeta$ is considered on the CL-manifold M,
where $\hat{L}(x,\xi)$ is a second-order elliptic differential operator and $\zeta \in C$.
For sufficiently large Re ζ proof is given of the unique solvability
of the Dirichlet problem for the operator $\hat{L}(x,\xi) + \zeta$. This result is
used to study the corresponding parabolic problem.

The results are generalized for some classes of higher-order elliptic
and parabolic operators similar to those considered in an earlier article
by M. I. VISHIK and P. M. BLEKHER.

2/2

USSR

MARCHENKO, B. G.

"Approximate Formulas for Calculating the Probability Density Function of the Random Quantity $\xi_\beta = \beta \int_0^\infty e^{-\beta t} d\gamma(t)$ at Small β"

V sb. Nekotor. vopr. prikl. mat. (Some Problems of Applied Mathematics-- collection of works), vyp. 5, Kiev, 1971, pp 193-202 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V149)

Translation: Approximate formulas are derived for the probability density function of the random quantity ξ_β at small β. The quantity ξ_β is defined by the stochastic integral

$$\xi_\beta = \beta \int_0^\infty e^{-\beta t} d\gamma(t),$$

where β is a real constant, $\beta > 0$, $\gamma(t), t \in [0, \infty)$ is a process with independent increments which has the gamma distribution

$$q_\alpha(x) = \frac{x^{t-1}}{\alpha^t \Gamma(t)} \exp\left(-\frac{x}{\alpha}\right), \quad t > 0,$$

such that $\gamma(0) = 0$, $M d\gamma(t) d\gamma(t) = dt$. V. Ivanov.

1/1

UDC 519.2

MARCHENKO, B. G.

"Analysis of Some Nonstationary Processes Using Wiener Functionals"

Otbor i peredacha inform. Resp. mezhved. sb. (Data Sampling and Transmission. Republic Interdepartmental Collection), 1972, vyp. 31, pp 3-12 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V79)

Translation: A study was made of the Wiener method for the case of stochastic processes obtained as a result of nonlinear transformations completed on a process containing additive nonstationary gaussian components and a deterministic function. Expressions are presented for the correlation functions of the transformed process in the form of infinite series, and the methods of constructing them are indicated. Special cases of such series are investigated for the presence of stationary gaussian components.

1/1

SOVETOVA, G. P., MARCHENKO, B. I., AMCHENKOVA, A. M., BALANDIN, I. G., and LUSHNIKOV, A. A., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, USSR Academy of Medical Sciences, Moscow

"Chronic Virus Infection in Transplanted Cultures of Human Leukemia Cells (J-96) and Mouse Fibroblasts (L) Produced by Inoculation of Cultures with Coxsackie B$_c$ and Vesicular Stomatitis Viruses in the Presence of Antisera to the Infected Cell"

Abstract: In order to evaluate the significance of antiviral antibodies in the development of chronic infection, it is necessary to study them in combination with other immunological factors under natural conditions. Consequently a serum against the infected cells was used to produce chronic infection in a tissue culture. J-96 cell cultures were inoculated with Coxsackie B$_c$ virus and L cells with vesicular stomatitis virus, and then cultured in the presence of antisera against the infected cells. In 7 of 14 tests with J-96 cultures and in 3 of 4 tests with L cultures, cell strains with properties differing sharply from the original ones were obtained. Starting with the 9th passage, when the cultures were no longer treated with the 1/2

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USSR

SOVETOVA, G. P., et al., Voprosy Virusologii, No 1, Jan/Feb 71, pp 10-16

antiserum, and for the remaining observation period (22-48 passages),
the cell cultures did not degenerate. The respective viruses were detected
in all cell strains. Cytophysiological, morphological, and cytochemical
studies were performed, the content of acid-soluble proteins in the various
cell cultures, and succinate dehydrogenase activity in tine culture cells
were determined. During the entire observation period, chronic infection
never became acute even when no antiserum was in the culture medium. The
cultures were highly resistant to superinfection and differed from normal
cultures by a considerably reduced content of acid-soluble proteins and by
their cytomorphological and histochemical properties.

2/2

USSR   UDC: 8.74

PSHENICHNYY, B. N., ONOPCHUK, Yu. N., MARCHENKO, D. I.

"Elaboration of the Structure of a Unified Digital Model of
Dynamic-Logic Objects"

V sb. Mat. metody issled. i optimiz. sistem (Mathematical
Methods of Studying and Optimizing Systems--collection of
works), Kiev, 1971, pp 232-249 (from RZh-Kibernetika, No 8,
Aug 72, Abstract No 8V605)

[No abstract]

1/1

1/2   014   UNCLASSIFIED   PROCESSING DATE—30OCT70
TITLE--POLYURETHANES -U-

AUTHOR-(04)-MARCHENKO, G.N., GOLODBIN, S.F., GORBUNOVA, N.N., CHELYSHEV,
   A.A.
CCUNTRY OF INFO--USSR

SOURCE--USSR 264,688
REFERENCE—OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED—03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS—POLYURETHANE RESIN, CHEMICAL PATENT, ORGANOMERCURY COMPOUND,
   CATALYST, ORGANIC SYNTHESIS, ORGANIC ISOCYANATE

CCNTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1467   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO—AA0128866
                        UNCLASSIFIED

CIRC ACCESSION NO--AA0128866
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   POLYURETHANES ARE PREPD. BY
REACTING HYDROXY CONTG. COMPDS. AND POLYISOCYANATES IN THE PRESENCE OF
ORGANOMETALLIC CATALYSTS.   CATALYSTS USED ARE ALKYL OR ARYL MERCURY
DERIVS. OF INORG. OR CARBOXYLIC ACIDS, RHGX OR RHGO SUB2 OR PRIME1,
WHERE R IS A HYDROCARBON GROUP, X IS HALOGEN, AND R PRIME1 IS A
CARBOXYLIC ACID RESIDUE CONTG. 1-18 C ATOMS.

UNCLASSIFIED

Environmental Pollution

USSR

MARCHENKO, G. S., and KUSHCH, A. S.

"The use of Boiler Aggregates of Heat Electrostations for Purification of Ventilation Emissions from Chemical Fiber Plants"

Kiev, Energetika i Elektrifikatsiya, No 4 (70), Jun/Jul 73, pp 8-10

Abstract: It has been shown that in principle it is possible to purify sulfur-containing air from chemical fiber plants by passing it through the furnace of power plant boilers serving as the air blast. Currently this appears to be the most simple, economically desirable and practically the only method capable of detoxifying small admixtures of hydrogen sulfide and carbon disulfide in large volumes of diluting air.

1/1

MARCHENKO , I.A.

AA0039845   UR 0482   4

Soviet Inventions Illustrated, Section I Chemical, Derwent,-
                                                          3/70

237722 BIOCHEMICAL TESTING OF WASTE WATER, is more
reliable and more accurate. Vessel 1 is
connected to the compensating bottles 2 and 3,
through an electrolyser 4 and a pressure regulator
5. The regulator is connected with a level indic-
ator 6, an amplifier 7, a relay 8 and a recorder
9. 1 litre of waste water (sample) with active
sludge is placed in the vessel. A container 10 with
30% solution of KOH is placed to absorb carbon
dioxide. Oxidising of organic matters accompanies
the demand for diluted oxygen and subsequent
diffusion of it from gas 11 to a liquid. The
pressure of gas increases due to the fact that

                                                          6

AUTHORS: Arendt, G. A.; Veprintsev, V. I.; Kalyagin, A. M.;
          Krikun, V. Ya.; Livshits, L. S.; Marchenko, I. A.;
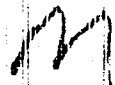   Morgulis, L. A. and Sokolov, G. I.

                    19741229

AÅ0039845

electrolyser 4 produces oxygen by the electroly-
sis of an anode A. When it is equal to the pres-
sure in the bottles 2 and 3, the electrolyser is
automatically cut-off. The current to the elec-
trolyser is regulated by a resistance R and the
duration of the cycle is controlled by a timer 12.
Hydrogen from cathode R is absorbed in 13. Mixing
of sample is done magnetically 14 and the complete
assembly is submerged in a thermostatically con-
trolled water bath 15.   17.4.67, as 1149716/13-26.
A.A KUZMIX et alia Water Supply Canalisation
Hydrotechnical Plate and Hydrogeological Eng.
Res. Inst. (7.7 69.) Bul.8/12.2.69. Class 85b.
Int.Cl. CO2b.

Spetsial'noye Konstruktorskoye Byuro "Gaztroymashina"

19741230

TITLE--ELECTRIC SPARK ALLOYING OF A CUTTING TOOL IN A MAGNETIC FIELD -U-

AUTHOR-(02)-KONOVALOV, E.G., MARCHENKO, I.F.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. AKAD. NAUK BELORUSS. SSR, 1970, (FIZ.-TEKHN.), (1),
   102-104
DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ELECTROSPARK HARDENING, TOOL STEEL, CUTTING TOOL, ALLOY
   ADDITIVE, TITANIUM CARBIDE, MAGNETIC FIELD EFFECT, WEAR RESISTANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0442   STEP NO--UR/0201/70/000/001/0102/0104

CIRC ACCESSION NO--AP0129667
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0129667

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFICIENCY OF THE ELECTRIC
SPARK METHOD OF ALLOYING STEEL CUTTING TOOLS, FOR EXAMPLE, WITH HARD
ALLOYS OF THE TIC-CO TYPE IN A MAGNETIC FIELD WAS STUDIED. THE
PRINCIPAL EFFECT OF THE MAGNETIC FIELD WAS THAT OF PRESERVING THE
ORIGINAL SURFACE FINISH OF THE TOOL, WHICH IN THE ABSENCE OF SUCH A
FIELD TENDED TO DEPRECIATE SHARPLY IN THE COURSE OF THE ELECTRIC SPARK
TREATMENT. THE WEAR RESISTANCE OF TOOLS PROCESSED IN A MAGNETIC FIELD
WAS UP TO 15 TIMES GREATER THAN THAT OF THOSE PROCESSED IN ITS ABSENCE.

UNCLASSIFIED

A70-23156 #   Analysis of the dispersion equation for a three-dimensional periodic structure (Analiz dispersionnogo uravneniia trekhmernoi periodicheskoi struktury). L. S. Benenson and T̶r̶e̶k̶h̶m̶enko. Radiotekhnika i Elektronika, vol. 15, Feb. 1970, p. 263-277 In Russian.

Outline of a method of analyzing the dispersion equation for a three-dimensional periodic structure, based on the representation of this equation in the form of a superposition of partial characteristics related to individual spatial harmonics of a two-dimensional array. The overall analysis of this equation for various structural parameters is illustrated by graphs plotted for the cases of two and three spatial harmonics. An analytical solution of the dispersion equation is given for the case of two harmonics.   A.B.K. !

REEL/FRAME
19780054

USSR

MARCHENKO, Kh. M.

"Determination of the Kernel of an Integral Canonical Representation of a
Random Process Using Continuous Observation Time"

Otbor i Peredacha Inform. Resp. Mezhved. sb. [Selection and Transmission
of Information, Republic Interdepartmental Collection], 1972, No 33,
pp 3-9 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow,
1973, Abstract No 3 V129 by the author).

Translation: The kernel of a functional is constructed from its known
correlation function by the method of factorization of the corresponding
spectral density within the framework of correlation theory. An example
is studied of the construction of the kernel of the functional indicated
above for the case of a correlation function of exponential form.

Therapy

USSR   UDC 616.981.553-085.816.2

MARCHENKO, L. A., Surgical Department, Sal'skiy Rayon hospital)

"Continuous Artificial Respiration in Botulism"

Abstract: Botulism, although rare, is significant because of its high mortality rate (76.5% in England, 65% in the United States, and 24.5% in the USSR). The poison paralyzes the motor nerves, and death results from respiratory paralysis. A case study is presented of a 32-yr old patient who was brought to the hospital on the 3rd day of illness in very serious condition, with paralysis of the throat, partial paralysis of the muscles of the face and eyes, a pulse rate of 120, BP 180/100, breathing very difficult, low tone of the trunk and leg muscles, and with all reflexes suppressed but with sensation unimpaired. On the 2nd day after admission, spontaneous respiration ceased, the throat became completely paralyzed, reflexes were absent, deep cyanosis set in, the abdomen was distended and paralyzed, and the heart was thumping. Oxygen was given through intratracheal intubation, and the following day the patient was placed in a respirator; inspiration was forced under 10 mm pressure, expiration was free. The patient was fed artificially, and sera, antibiotics, vitamins, analeptics, and proteolytic enzymes were given to prevent embolisms. The trachea and larger bronchi were
1/2

instituted, and on the 90th day the respirator was removed. On the 100th day the intratracheal tube was removed. On the 170th day the patient was discharged in fair condition, with insignificant lability of the pulse.

2/2

- 80 -

USSR

MARCHENKO, L. A., Vestnik Khirurgii imeni I. I. Grekov, Vol 104, No 5, May 70, pp 115-116

aspirated frequently, and froth and a few plugs were removed. BP rose to 210/110 ... but decreased to 130/90 -- 130/105 after aspiration and vigorous

1/2   028   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--USE OF THE DEVICE FERMENT 1 FOR IDENTIFYING MICROORGANISMS
   ACCORDING TO THEIR PROTEOLYTIC ACTIVITY -U-
AUTHOR-(04)-ANDREYEV, V.S., MATYKO, N.A., BASHTANOV, A.V., MARCHENKO, L.A.

COUNTRY OF INFO--USSR

SOURCE--MED. TEKH. 1970, 4(1), 16-17

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MICROORGANISM, AMMONIA, BIOSYNTHESIS, BACTERIOLOGIC LABORATORY
   INSTRUMENT, ELECTRIC CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0460   STEP NO--UR/0451/70/004/001/0016/0017

CIRC ACCESSION NO--AP0132675
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0132675

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DEVICE IS DESCRIBED FOR THE
IDENTIFICATION OF THE ACTIVITY OF NH SUB3 PRODUCING MICROORGANISMS.   IT
IS BASED ON THE CONTINUOUS REGISTRATION OF THE INCREASE OF ELEC. COND.
(V. S. ANDREEV, V. I. ROSENGART, AND V. A. TORUBAROV, 1965) IN AN
ELEMENT CONTG. THE BUFFERED GROWTH MEDIUM (PEPTONE); THE RESULTS ARE
CHECKED BY A PARALLEL EXPT. CARRIED OUT IN THE PRESENCE OF A SPECIFIC NH
SUB3 TRAPPING REAGENT (KI, NA SUB2 HPO SUB4, OR NAH SUB2 PO SUB4)
PREVENTING THE INCREASE INCONDUCTIVITY DUE TO THE LIBERATION OF NH SUB3
(BASE LINE). THE METHOD IS EASY, AND TIME SPARING IN COMPARISON TO THE
CONVENTIONAL ANAL. METHODS.   FACILITY: LENINGRAD. FILIAL VSES.
NAUCH.-ISSLED. INST. MED. PRISOROSTR., LENINGRAD, USSR.

UNCLASSIFIED

1/2   030   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--STATE OF THE CARDIOVASCULAR SYSTEM IN WORKERS OF HOT SHOPS -U-

AUTHOR--MARCHENKO, L.A.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 126-130

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INDUSTRIAL HYGIENE, CARDIOVASCULAR SYSTEM, HEAT BIOLOGIC
    EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1744   STEP NO--UR/0475/70/000/006/0126/0130

CIRC ACCESSION NO--AP0129112
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0129112

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FUNCTIONAL STATE OF THE
CARDIOVASCULAR SYSTEM WAS STUDIED IN PERSONS WORKING IN CONDITIONS OF
INTERMITTENT EFFECT OF RADIANT AND CONVECTIONAL HEAT BY MEANS OF
MULTIPLE CLINICAL AND INSTRUMENTAL METHODS. THE WORKERS UNDER STUDY
SHOWED AN EXERTION OF APPARATUS OF THERMOREGULATION, DECREASE OF THE
VASCULAR TONUS, PARTICULARLY IN THOSE WORKING IN SUCH CONDITIONS LESS
THAN THREE YEARS.   FACILITY: KIYEVSKIY NAUCHNO-ISSLEDOVATEL'SKIY
INSTITUT GIGIYENY TRUDA I PROFZABOLEVANIY.

UNCLASSIFIED

USSR   UDC 576.8.078.39

MARCHENKO, L. A., ANDREYEV, V. S., MATYKO, N. A., and BASHTANOV, A.
V., Leningrad Branch, All-Union Scientific Research Institute of
Medical Instrumentation

"The 'Ferment-1', a Device for Identifying Microorganisms by Their
Proteolytic Activity"

Moscow, Meditsinskaya Tekhnika, No 1, 1970, pp 16-17

Abstract: The proposed device is based on the release of ammonia
microorganisms, E. coli in particular, under the influence of prote-
olytic enzymes. The amount of ammonia released is recorded in a
high-frequency conductometric apparatus that uses a differential
scheme of measurement in recording the electrical conductivity of a
solution under study. The procedure takes 30-40 min, a fraction of
the time required to identify ammonia by the conventional biochemical
methods. The device was tested on an E. coli culture that does not
form ammonia. The electrical conductivity of solutions with and
without a specific reagent did not change.

1/1

USSR

SHAPOVALOVA, G. K., SEDYKH, A. S., ABELENSHCHEVA, G. M., GALITSINA, V. Y., and MARCHENKO, L. F.

"Insecticidal Action and Effectiveness of Phthalophos"

V sb. Khim sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 8-14 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11I594)

Translation: Phthalophos in concetrations of 0.075-0.1% is an effective substitute for DDT in controlling many pests of orchard, berry, vegetable, commerical and fodder crops. Residues of the insecticide remain toxic for pests for a shorter term than DDT. Phthalophos can be used with zineb and copper oxychloride.

1/1

USSR   UDC 632.95

SHAPOVALOVA, G. K., ROMANOVA, V. V., MARCHENKO, L. F., GUNAR, M.I.
SHUMYATSKAYA, T. N., MIKHALYUTINA, YE. B., SHVETSOVA-SHILOVSKAYA,
K. D., and MEL'NIKOV, N. N.

"Insecticide"

Translation: The authors suggest as insecticides compounds of the
formula $(RO)(R'O)P(X)(OR'')$ (I; R and R' = Me, Et; R'' = acetyl-,
halogen- or alkyl-substituted phenyl or naphthyl; X = O or S),
which are obtained by the interaction of dialkyl chlorophosphates
or thiophosphates with the corresponding phenols or naphthols or
phenolates in MeCN with K_2CO_3 at 75-80° or in an inert solvent at
90-110°. The following are obtained: I (R = R', R'' = substituted
phenyl; given are R substituents in the phenyl ring, X, boiling
point in °C/mm, d_4^{20}, $n^{20}D$): Me, 2-Ac, S, 120-6/0.14, 1.2465,
1.5372; Et, 2-Ac, S, 110-4/0.09, 1.1911, 1.5271; Et, 3-Ac, S,
120-4/0.1, 1.1378, 1.5260; Me, 4-Ac, O, 124-30/0.08, 1.2539, 1.5070;
Et; 4-Ac, O, 130-3/0.1, 1.1846, 1.4970; Me, 4-Ac, S, 120-3/0.08,
1.2648, 1.5445; Et, 4-Ac, S, 127-30/0.08, 1.1822, 1.5280; Me,

USSR

SHAPOVALOVA, G. K., et al., USSR Authors' Certificate No 244800

2-Ac-4-Cl, S, 136-43/0.15, 1.3519, 1.5510; Et, 2-Ac-4-Cl, S, 126-30/0.13, 1.2531, 1.5295; Et, 2-Ac-4-Cl, S, 125-7/0.1, 1.2542, 1.5325; Me, 2-Ac-6-Cl, 0.127-9/0.11, 1.3555, 1.5118; Me, 4-Ac-2Cl, 0.152-3/0.15, 1.3556, 1.5218; Et, 4-Ac-2-Cl, 0, 159-61/0.12, 1.2699, 1.5094; Me, 4-Ac-2-Cl, S, 135-43/0.18, 1.3463, 1.5558; Me, 2-Ac-4-Me, S, 133-8/0.15, 1.2340, 1.5405; Me, 2-Ac-5-Me, S, 132-8/0.17, 1.1864, 1.5388; Me, 4-Ac-2-Me, S, 153-6/0.18, 1.2400, 1.5465; Et, 4-Ac-3-Me, 0, 150-1/0.2, 1.1740, 1.5015; Me, 4-Ac-3-Me, S, 155-61/0.22, 1.2404, 1.5442; Et, 4-Ac-3-Me, S, 152-4/0.2, 1.1656, 1.5290; Me, 2-Ac-4-Me2, S, 130-2/0.05, 1.1927, 1.5380; Et, 2-Ac-4, 5-Me2, S, 135-40/0.05, 1.1312, 1.5200; Et, 2-EtCO, 0, 130-2/0.1, 1.2565, 1.4930; Me, 4-EtCO, 0, 149-52/0.08, 1.2273, 1.5070; Me, 4-EtCO, S, 142-7/0.1, 1.2264, 1.5420; I (R = Me, R' = Et, X = S; R" = substituted phenyl; given here are substituents in the phenyl nucleus, boiling point in °C/mm, d_4^{20}, $n^{20}D$): 4-Ac, 121-4/0.1, 1.2338, 1.5368; 2-Ac, 120-4/0.18, 1.2245, 1.5318; 4-Ac-2,5-Me2, 156-8/0.05, 1.1896, 1.5375; 4-EtCO, 148-52/0.1, 1.195, 1.5321; I (R" = 2-acetylnaphthyl; given here are R, R', X, boiling point in °C/mm, d_4^{20}, $n^{20}D$): Me, Me, 0, 156-7/0.18, 1.3548, 1.5630; Et, Et, 0, 155-60/0.1, 1.2177, 1.5465; Me, Et, S, 170-3/0.2,

2/3

USSR

SHAPOVALOVA, G. K., et al., USSR Authors' Certificate No 244800

1.2396, 1.5850; Et, Et, S, 159-62/0.14, 1.2003, 1.5740. I's are approximately as active as chlorophos against Musca domestica, Calandra orycae and Porthetria dispar and have low toxicity for warm-blooded animals.

3/3

USSR   UDC   547.944/945

MAN'KO, I. V., and MARCHENKO, L. G., Leningrad Chemical-Pharmaceutical Institute

"Pictumine -- a new Alkaloid from Cynoglossum Pictum"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 5, 1972, pp 655-656

Abstract: Five alkaloids have been isolated from Cynoglosum pictum Ait.,
from which one remained unidentified. This alkaloid, m.p. 158-159° is
soluble in water, methanol, ethanol, benzene, acetone, and chloroform;
it is insoluble in petroleum and diethyl ethers. Its IR spectrum shows
absorption bands at 1720, 1705, 1280, 1250, and 1160 cm^{-1}. On the basis
of these data a conclusion has been reached that this alkaloid is a new
compound, so it was named pictumine.

1/1

- 10 -

1/2   019   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--THERMOPLASTIC ADHESIVES -U-

AUTHOR-(05)-SOROKINA, N.S., KOTOV, M.P., KOVALENKO, R.V., MARCHENKO, L.N.,
   BAKHAREVA, L.T.
COUNTRY OF INFO--USSR

SOURCE--KOZH. OBUV. PROM. 1970, 12(2), 52-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--THERMOPLASTIC MATERIAL, ADHESIVE, FOOTGEAR, LEATHER, POLYESTER
   RESIN, POLYAMIDE COMPOUND/(U)KTILOL POLYESTER GLUE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1731   STEP NO--UR/0498/70/012/002/0052/0054

CIRC ACCESSION NO--AP0125352
                           UNCLASSIFIED

CIRC ACCESSION NO--AP0125352
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOOTWEAR INDUSTRY LEATHER
  GLUES, WITH VISCOSITIES OF 300-1500 P AND HARDENING TIMES OF 3-4 SEC,
  WERE PREPD. BY MODIFYING POLYMERS WITH LOW MOL. WT. COMPDS., E.G. BY THE
  ADDN. OF HEXAMETHYLENEDIADIPAMIDE TO POLYAMIDES. MODIFIED POLYESTER
  GLUES (KTILOLS) WERE ALSO PREPD.

UNCLASSIFIED

1/2   013   UNCLASSIFIED   PROCESSING DATE---30OCT70
TITLE--GLUEING COMPOSITION -U-

AUTHOR-(05)-SOROKINA, N.S., KOTOV, M.P., MARCHENKO, L.N., KOVALENKO, R.V.,
  BAKHAREVA, L.T.
COUNTRY OF INFO--USSR

SOURCE--USSR 265,346
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GLUE, CHEMICAL PATENT, ADHESION STRENGTH, LEATHER, POLYAMIDE
  RESIN, ADIPIC ACID, HEXAMETHYLENE DIAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1460   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128859
                           UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AA0126859
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GLUE WITH INCREASED ADHESION
  TOWARD MOISTENED LEATHER HAS THE FOLLOWING COMPN. (IN WT.PERCENT).
  POLYAMIDE RESIN 55-60, PLASTICIZER 1-6, STEARIC ACID 3.5-5.3 OR ADIPIC
  ACID 3.5-10.5, CONDENSATION PRODUCT OF HEXAMETHYLENEDIAMINE AND ADIPIC
  ACID 5-15, ROSIN 15-30, AND A STABILIZER 0.2-0.5.   FACILITY: KIEV
  TECHNOLOGICAL INSTITUTE OF LIGHT INDUSTRY.

UNCLASSIFIED

1/2   020   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--PROPERTIES OF COMBINED POLYAMIDE AND PHENOL FORMALDEHYDE RESINS. 2.
   WATER RESISTANCE OF BONDS FORMED BY MELTS OF COMBINED RESINS -U-
AUTHOR-(04)-MARCHENKO, L.N., GRINYUK, M.A., SOROKINA, N.S., KOTOV, M.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., TEKHNOL. LEGK. PROM. 1970, (1), 64-8

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--POLYAMIDE RESIN, PHENOL FORMALDEHYDE RESIN, WATERPROOFING,
   ADHESIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1107   STEP NO--UR/0323/70/000/001/0064/0068

CIRC ACCESSION NO--AT0134793

2/2   020   UNCLASSIFIED   PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AT0134793
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   RESISTANCE TO WATER OF THE TITLE
  ADHESIVES OBTAINED BY THE COMBINATION (AT 200DEGREES IN N) OF POLYAMIDE
  AND PHENOL HCHO RESINS VARIES NONMONOTONICALLY WITH THE RATIO OF THE
  RESINS, PASSING THROUGH A MAX. AND A MIN.   THE COMPNS. CONTG.
  8-15PERCENT PHENOL HCHO RESIN ARE THE MOST STABLE AND RESISTANT TO
  WATER.   THE OPTIMUM BONDING TEMPS. ARE TABULATED. THE PROBABLE
  MECHANISM OF IMPROVING STABILITY OF ADHESIVES IS DISCUSSED.
  FACILITY: KIEV. TEKHNOL. INST. LEGK. PROM., KIEV, USSR.

USSR

MARCHENKO, M. A., and CHERNENKO, G. G., Khar'kov Polytechnic Institute imeni V. I. Lenin

"Production and Properties of Thick Oxide Films in Titanium"

Abstract: A study was made of the anodic behavior of VT1-1 brand titanium in acid chloride, phosphate-chloride, and sulfate-chloride solutions. The properties of developing anodic films and some utilization areas of anodized titanium were investigated. The joint presence of corrosion in solutions of ion-inhibitors $(SO_4^{2-}$, $PO_4^{3-})$ and ion-activators (Cl^{-1}) was found to be essential for the development of a thick phasal film. Areas of corrosion damage and of the development of thick white and thin colored films in systems $HCl-H_3PO_4-H_2O$ and $HCl-H_2SO_4-H_2O$ and the anodic film thickness, changing in time, are shown. Obviously, in the titanium-anodic film pair the oxide is the cathode. In connection with high porosity, the thick-layered oxide does not provide corrosion protection of titanium. Three figures, ten bibliographic references.
1/1

1/2   012   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--PREPARATION OF COMMERCIAL C SUB7-9 ACIDS BY THE LIQUID PHASE
  OXIDATION OF NARROW FRACTIONS OF PARAFFIN -U-
AUTHOR-(02)-PERCHENKO, A.A., MARCHENKO, M.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(4), 30-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OXIDATION, FATTY ACID, ALKANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1659   STEP NO--UR/0065/70/015/004/0030/0033

CIRC ACCESSION NO--AP0125281
                      UNCLASSIFIED

CIRC ACCESSION NO--AP0125281

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PARAFFIN FRACTIONS, B. 260-350,
275-320, AND 250-300DEGREES WERE OXIDIZED IN 15.5-19.0 HR AT
125-110DEGREES AND FRACTION B. 230-270DEGREES IN 12.4 HR AT 120DEGREES
WITH HOMOGENEOUS MN-NA CATALYST PREPD. WITH FATTY ACIDS C SUB5-9
YIELDING 68.5, 63.8, 56.4, AND 54.3PERCENT MIXT. OF WATER SOL. ACIDS,
CALCD. ON THE PARAFFIN FRACTIONS, RESP. THE YIELD DECREASED WITH A
DECREASE IN THE MOL. WT. OF PARAFFINS. THE CONTENT OF ACIDS C SUB7-9 IN
THE ACID MIXT. OBTAINED WAS 21.9, 32.2, 33.6, AND 42.3PERCENT, RESP.
THE ACID FRACTION C SUB7-9 OBTAINED BY OXIDIZING THE PARAFFIN FRACTION,
B. 230-270DEGREES, CONTAINED NO UNSAPONIFIABLE MATTER.

USSR

YEROFEYEV, N. K., MARCHENKO, M. K., GUKOVA, T. Ye.

"Study of Unevenness of Distribution of Deformations in Tensometric Plate"

Translation: An expression is produced allowing calculation of deformation for any point on a plate with dimensions a, b. The results of calculations performed by computer are used to construct graphs of the dependence of deformation of an element of the plate on its position and the ratio of plate dimensions b/a. It is shown that with a ratio of sides of the plate b/a = 0.02, the unevenness of deformation does not exceed ±10%. Consequently, if the permissible unevenness of stress is on the order of 10%, the ratio of sides of a tensometric plate should be selected not over 0.02. The result produced is applicable to elastic plates made of any material which follows Hook's rule and is practically independent of the modulus of elasticity. 2 figures.

1/1

AA0044268   ΥΥ\   UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243048 PROTECTION OF PARALLEL-CONNECTED SEMICONDUCTOR
.DEVICES achieves higher reliability and better
efficiency. The increase of current through the
parallel-connected transistors (1) causes a proportional
voltage drop on resistors (2). At a certain level of
current in any of the branches controller (3) will
switch off the power supply via switch (4).
3.5.67 as 1153764/24-7. YE.A. KRIVESHKO & N.H. MARCHENKO.
MACHINE WORKS, KIEV. (30.9.69) Bul 16/5.5.69. Ctahs aid.
21c. Int.Cl. H 02m, H 01h.

Kiyevskiy Mashinostroitel'nyy Zavod

1/2   4

19770787

AA0044268

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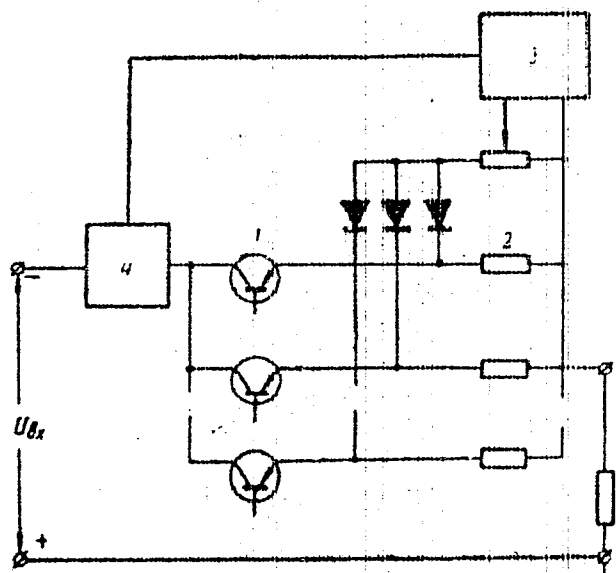
19770788

USSR   UDC: 681.3.06:51

YEMEL'YANOV, M. Ye., MARCHENKO, N. V.

"Programming Algorithms for Processing Tabular Information"

Tr. 3-v Zimn. shkoly po mat. programmir. i smezhn. vopr., 1970, vyp. 2
(Works of the Third Winter School on Mathematical Programming and Re-
lated Problems, 1970, No 2), Moscow, 1970, pp 300-313 (from RZh-Kiber-
netika, No 9, Sep 71, Abstract No 9V597)

Translation: The authors describe a library of standard programs for
simplifying the programming of printing out documents in the required
form, and changing the form of printout and data processing algorithms.
The described library was realized on the "Ural-14" computer for the
daily accounting system of the slabbing shop at the "Zaporozhstal'"
Plant. V. Mikheyev.

1/1

USSR   UDC: 8.74

ZHURAVLEV, D. A., MARCHENKO, O. D., KHVOROSTUKHIN, L. A., Moscow Aviation
Technology Institute

"Solution of a Special System of Second-Order Partial Differential Equa-
tions by the Method of Successive Approximations"

Translation: An algorithm is presented for solving a system of two non-
linear differential equations with linear boundary conditions in dif-
ferential form. The problem is solved by reducing solution of the
initial problem to sequential solution of a system of second-order linear
differential equations. The number of successive steps depends on the
rate of convergence of the iteration process, and also on the required
accuracy of the calculations. In the final analysis, the problem reduces
to solution of a system of linear algebraic equations in which the un-
knowns are the sought functions at grid intersections.
1/1

USSR

ZHURAVLEV, D. A., MARCHENKO, O. D., ZHVOROSTUKHIN, L. A.

"Algorithm for Determination of the Stress State when a Spherical Indentor is Pressed into an Elastic-Plastic Half Space"

Translation: The stress state of a material is studied when a hard spherical indentor is pressed into the flat surface of an elastic-plastic body and is moved along this surface. The three-dimensional vector elastic field of displacements resulting from deformation of the body considering the forces of surface friction is studied in a cylindrical system of coordinates. The equations produced represent a system of quasilinear differential equations with second order partial derivatives and three unknown functions. The solution of the equations in analytic form is not possible. Therefore, numerical methods of solution are used, in particular the grids method. In order to simplify the problem, several assumptions were made concerning the properties of the material of the body. In addition to determination of the instantaneous

1/2

USSR

Zhuravlev, D. A., Marchenko, O. D., Zhvorostukhin, L. A., Mosk. Aviats.
Tekhnol. In-t, Moscow, 1972, 14 pp.

field of displacements of all points and geometry of the outer deformed sur-
face, normal force N acting on the indentor and friction force F are both
determined.

USSR   UDC: 621.372.826

USIK, V. Ya., ROZHKO, A. V., MIKHAYLOVSKIY, S. A., MARCHENKO, P. I.,
BURLAKOV, O. V., POLISHCHUK, Ya. L.

"A Single-Conductor Transmission Line"

USSR Author's Certificate No 259195, filed 19 Aug 68, published 28 Apr 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12B151 P)

Translation: The proposed single-conductor transmission line consists of a
section of metal wire with a dielectric coating, two coaxial-horn surface-
-wave exciters and a tension device of the winch type. To simplify connec-
tion of reception and transmitting equipment to the transmission line and
ensure tightening of the wire, this wire is seated loosely in a cylindrical
hole made through one of the exciters in the central conductor of the
branch of the angle connector which is coaxial with the horn. In the
tension device, the winding drum is connected to a hand crank through a
slip clutch. Five illustrations.

1/1

USSR

UDC 51:155.001.57:612.82

MARCHENKO, S. P.

"The Structure and Functions of a Spatial Analyzer"

Translation: Analysis of physiological and psychophysical data on the operation of the visual and tactile analyzers is used to formulate requirements for the structure and functions of models of the spatial analyzer. A functional diagram is presented of a model allowing analysis of flat geometric images.

1/1

USSR

UDC 51:155.001.57:681.3.06

MARCHENKO, S. F., CHERVOV, V. G.

"Separation of Spatial Characteristics of Images and Coding of Character Information"

Translation: Problems of separation of spatial characteristics during analysis of patterns and application of biological principles for automatic analysis and coding of geometric patterns are studied. Analysis of handwritten numbers is presented as an example.